

1. (Currently Amended) A hydrogen gas separator, comprising:
 - a first porous layer made from a hydrogen permeable material; and
 - a solid layer of ~~said~~ a hydrogen permeable material disposed on said first porous layer and in contact with said first porous layer; ~~and~~
 - a second porous layer made of a hydrogen permeable material, wherein said solid layer is interposed between said first porous layer and said second porous layer.
2. (Original) The separator according to Claim 1, further including a porous base layer for supporting said first porous layer.
3. (Previously presented) The separator according to Claim 1, wherein said hydrogen permeable material of said first porous layer and said hydrogen permeable material of said solid layer are the same material.
4. (Cancelled)
5. (Original) The separator according to Claim 1, wherein said first porous layer has a pore size that varies as a function of distance from said solid layer.

6. (Currently Amended) The separator according to Claim # 2, further including at least one bonding layer disposed between said porous base layer and said first porous layer.

7. (Cancelled)

8. (Original) The separator according to Claim 2, wherein said porous base layer is a sintered powder having a predetermined average particle size.

9. (Original) The separator according to Claim 8, wherein said first porous layer is comprised of multiple thick film layers, wherein each of said thick film layers has a different average particle size of said hydrogen permeable material.

10. (Original) The separator according to Claim 1, wherein said solid layer of said hydrogen permeable material is a deposition layer that is deposited onto said first porous layer.

11. (Original) The separator according to Claim 2, wherein said porous base layer is shaped as a tube that defines a central conduit, wherein said first porous layer surrounds said base layer, and said solid layer surrounds said first porous layer.

12.(Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (New) A hydrogen gas separator, comprising:

a first porous layer made from a hydrogen permeable material; and

a solid layer of a hydrogen permeable material disposed on said first porous layer and in contact with said first porous layer, wherein said first porous layer has a pore size that varies as a function of distance from said solid layer.

21. (New) A hydrogen gas separator, comprising:

a porous layer comprised of multiple thick film layers of hydrogen permeable particles, wherein each of said multiple thick film layers has a different average particle size.; and

a solid layer of a hydrogen permeable material disposed on said porous layer and in contact with said porous layer.